

Work Order ID 102844

June-12-13 9:15:14 AM

102844

Accept

N9000040100

Setup Start

NS1

Item ID:

D3264-1

Stop

Revision ID:

Bracket

NS2

Start Date:

6/11/13

R

Required Date:

6/11/13

R

Reference:

Cust Item ID:
Customer:

Approvals:

Process Plan: UMF

Date: 13-6-12

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept Qty

Reject Qty

Reject Number Insp.
Stamp

Draw Nbr

Revision Nbr

D3264

Rev A

100

0.00

1000

Bandsaw

Memo

Jcaspa Bandsaw

CUT BLANK 5.700" LONG

D45
02 ET 13-07-02 (x8)

110

111N

HAAS 1

HAAS CNC vertical machine #1

Memo

MACHINE AS PER FOLIO FA447

FOLIO REV: AA

DWG REV: A

DEBURR AS PER DWG

0.00

SEE
PTO
13-07-06

D45
02 ET 13-07-06 (x8)

(PTO)

Work Order: <u>102844</u>	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. <u>D 3264-1</u>	<input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved	<input type="checkbox"/> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab	<input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite	<input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier	<input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other	
NCR No. <u>13-2837</u>						

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design Doc/Data	13.07.08	28	x8	Top edges of 2.525 cad slightly bent from tightening of the vice	DAU 13.07.08	THIS WILL NOT PREVENT THE CAUSTIC FROM SITTING PROPERLY ONTO THE BRACKET.	ITD 13-07-08	AS 16 9-05	AS 16 9-05
Equip./Tooling		110		QC Tool is used / lack of better tooling holding vice				13/07/08	13/07/08
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

Landing Gear		General		FAULT CATEGORY			
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other			

DOA:

Date: 13/07/23

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: QA Date: 13-7-12

Work Order update only



Work Order: 162844			DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. D3264-1			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Suspected Unapproved <input type="checkbox"/>		Skid-tube <input type="checkbox"/> Machining <input checked="" type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering Quality <input type="checkbox"/> Other <input type="checkbox"/>			
NCR No. 13-2838								

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

Part HEAD TOO TIGHT IN JAWS. RESULTS: THE 0.125" THICKNESS AS SHOWN DO NOT MATCHED DATA IS NOT CONSIDERED AND ROUTED BETWEEN 0.110" TO 0.125". Re look at better looking Data / today				DAS 22 080 13.07.06	PER ATTACHED SHEET 5 OF SR-D412-706-1, CALCULATIONS SHOW THAT THE MS IS STILL POSITIVE. THEREFORE PART ARE ACCEPTABLE IF THICKNESS IS 0.110" +.	41 DAS 02 13-07-06 13.07.06	DAS 16 080 13/07/06	DAS 16 080 13/07/06
--	--	--	--	------------------------	---	--------------------------------	------------------------	------------------------

Landing Gear		FAULT CATEGORY	
<input type="checkbox"/> Bending	<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions
<input type="checkbox"/> Cracks	<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Crushing	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Instructions Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Part Moved
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Misread	<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Off-set	<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Out of Calibration	<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Set-up
			<input type="checkbox"/> Temperature/Cure
			<input type="checkbox"/> Weld
			<input type="checkbox"/> Wrong Stock Pulled
			<input type="checkbox"/> Other

Work Order ID 102844

102844

June-12-13 9:15:15 AM

Item ID: D3264-1

Accept

N9000240100

Setup Start

NS1

Revision ID:

Item Name: Bracket

Stop

NS2

Start Date: 6/11/13

Start Qty: 8.00

R

Cust Item ID:

Required Date: 6/11/13

Req'd Qty: 8.00

R

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept Qty

Reject Qty

Reject Number Insp.
Stamp

150 White Gloss(Ref:4.3.5.1) per QS1005 4.3-Alum

15N

Powdercoat

Memo

0.00

Start Time: 7:50

8x d m-f 13/07/10

Powder Coating

W1125622

160

QC3-Inspect Part Finish

0.00

Finish Time 8:22

16N

QC

Memo

0.00

Quality Control

8x d m-f 13/07/10

170

Identify as per dwg & Stock Location: ST484 0.00

17N

Packaging

Memo

0.00

Packaging

8x

13-8-10

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____			DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>			AGAINST DEPARTMENT/PROCESS Skid-tube Machining <input type="checkbox"/> Thermforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube Small Fab <input type="checkbox"/> Finishing Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging Supplier <input type="checkbox"/> Engineering Quality <input type="checkbox"/> Other <input type="checkbox"/>													
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector										
Design																			
Doc/Data																			
Equip/Tooling																			
Handling/Pre																			
Material																			
Operator																			
Offset/Setup																			
Process																			
Supplier																			
Training																			
Transport																			
Unapproved																			
FAULT CATEGORY																			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube					General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function					<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence					<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other				

Work Order ID 102844

102844

June-12-13 9:15:15 AM

Page 4

Item ID: D3264-1

Accept

N9000040100

Setup Start

NS1

Revision ID:

Item Name: Bracket

Stop *NS2*

Start Date: 6/11/13

Start Qty: 8.00

R

Required Date: 6/11/13

Req'd Qty: 8.00

R

Cust Item ID:
Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC21 - Final Inspection - Work Order Release

0.00

1RN

Memo

0.00

Quality Control

UB-07-10

13/7/11

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____			DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS Skid-tube Machining <input type="checkbox"/> Thermofforming Large Fab <input type="checkbox"/> Crosstube Small Fab <input type="checkbox"/> Finishing Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging Supplier <input type="checkbox"/> Engineering Quality <input type="checkbox"/> Other <input type="checkbox"/>														
Root Cause Design <input type="checkbox"/> Doc/Data <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Handling/Pre <input type="checkbox"/> Material <input type="checkbox"/> Operator <input type="checkbox"/> Offset/Setup <input type="checkbox"/> Process <input type="checkbox"/> Supplier <input type="checkbox"/> Training <input type="checkbox"/> Transport <input type="checkbox"/> Unapproved <input type="checkbox"/>	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector										
FAULT CATEGORY																			
Landing Gear Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube <input type="checkbox"/>					General Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function <input type="checkbox"/>					Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/>					Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other <input type="checkbox"/>				

..Picklist Print

June-12-13 9:15:14 AM

Work Order ID: 102844

Parent Item: D3264-1

Parent Item Name: Bracket

Start Date: 6/11/13

Required Date: 6/11/13

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP A04.09.02New issueK/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M006116B1.250X04.500		Purchased	No					3.2534		4			

Location

Loc Qty

Loc Code

MAT004
112628
121380
1.77
126160
K 4

25 73 08-02

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-around;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
--	--	--

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

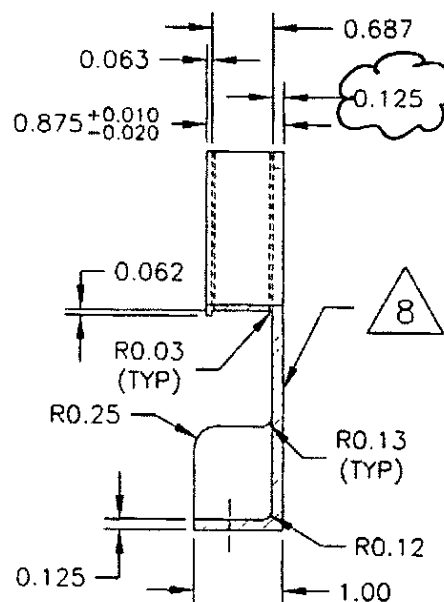
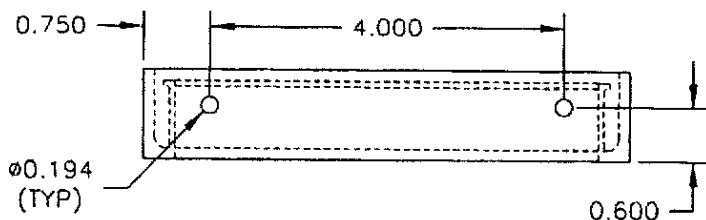
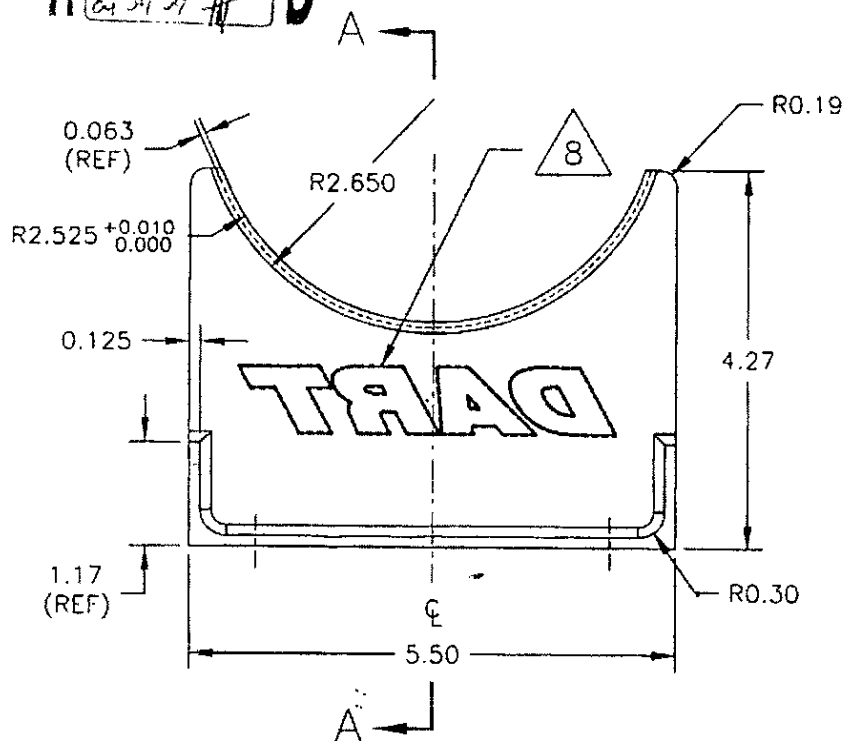
FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other



DESIGN 12	DRAWN BY 12	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 12	APPROVED 12	DRAWING NO. D3264	REV. A SHEET 1 OF 1
DATE 04.04.20		TITLE BRACKET	SCALE 1:2
A	04.04.20	NEW ISSUE	

RELEASED
04 21 21 AF



SECTION A-A



D3264-1 BRACKET

03264-1:

- 1) MATERIAL: 6061-T6/T651 (QQ-A-200/8 OR QQ-A-225/8) (REF. DART SPEC. M6061T6B)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) PART IS SYMMETRIC ABOUT CENTERLINE
- 7) IDENTIFY WITH DART P/N & B/N USING FINE POINT PERMANENT MARKER
- 8) ENGRAVE DART LOGO AS SHOWN USING 0.75 HIGH x 0.010 DEEP (MAX) LETTERS WITH
{MIN} TOOL RADIUS OF 0.25

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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>													
Root Cause Design <input type="checkbox"/> Doc/Data <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Handling/Pre <input type="checkbox"/> Material <input type="checkbox"/> Operator <input type="checkbox"/> Offset/Setup <input type="checkbox"/> Process <input type="checkbox"/> Supplier <input type="checkbox"/> Training <input type="checkbox"/> Transport <input type="checkbox"/> Unapproved <input type="checkbox"/>	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector										
FAULT CATEGORY																			
Landing Gear Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube <input type="checkbox"/>					General Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function <input type="checkbox"/>					Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/>					Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other <input type="checkbox"/>				

DART AEROSPACE LTD		Work Order: 10284
Description: Bracket		Part Number: D3264-1
Inspection Dwg: D3264	Rev: A	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.687	+/-0.010	.690	✓		vern	25-4
0.063	+/-0.010	.061	✓			
0.125	+/-0.010	.117	✓			
0.875	+0.010/-0.020	.879	✓			
0.062	+/-0.010	.061	✓			
R0.03	+/-0.030	.030	✓			
R0.13	+/-0.030	.130	✓			
1.00	+/-0.030	1.004	✓			
0.125	+/-0.010	.124	✓			
0.600	+/-0.010	.600	✓			
4.000	+/-0.005	3.998	✓			
0.750	+/-0.010	.750	✓			
Ø0.194	+0.005/-0.000	.195	✓			
5.50	+/-0.030	5.500	✓			
0.125	+/-0.010	.125	✓			
0.063	+/-0.010	.063	✓			
R0.25	+/-0.030	.220	✓			
4.27	+/-0.030	4.269	✓			
R0.30	+/-0.030	.300	✓			

Measured by: RT	Audited by: D.A. DAS	Prototype Approval:	N/A
Date: 13-07-06	Date: 13/07/08	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.09.03	New Issue	KJ/JLM	
B	05.04.26	Ø0.194 was Ø0.208; dimensions removed	KJ/JLM	
C	07.10.10	Tolerance for 0.875 revised	KJ/EC/DD	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

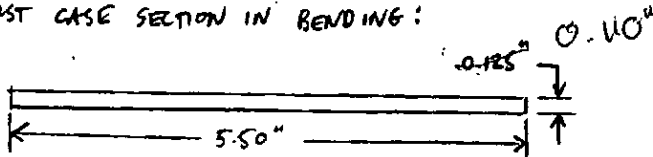
Work Order update only ☐

Work Order: _____				DISPOSITION				AGAINST DEPARTMENT/PROCESS			
Part No. _____				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>				Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Design											
Doc/Data											
Equip/Tooling											
Handling/Pre											
Material											
Operator											
Offset/Setup											
Process											
Supplier											
Training											
Transport											
Unapproved											
FAULT CATEGORY											
Landing Gear					General						
<input type="checkbox"/> Bending					<input type="checkbox"/> Bend						
<input type="checkbox"/> Centre Not Concentric					<input type="checkbox"/> BOM/Route						
<input type="checkbox"/> Cracks					<input type="checkbox"/> Broken/Damage/Defect						
<input type="checkbox"/> Crimp/Kink/Ripple/Wave					<input type="checkbox"/> Burrs						
<input type="checkbox"/> Cuffs					<input type="checkbox"/> Contamination						
<input type="checkbox"/> Crushing					<input type="checkbox"/> Countersink						
<input type="checkbox"/> Heat Treat					<input type="checkbox"/> Cut Too Short						
<input type="checkbox"/> Inspection Strip In Tube					<input type="checkbox"/> Drawing						
<input type="checkbox"/> Marks/Chatter					<input type="checkbox"/> Drill Holes						
<input type="checkbox"/> Turning Sequence					<input type="checkbox"/> Finish						
<input type="checkbox"/> Wave/Twist in Tube					<input type="checkbox"/> Fit/Function						
					<input type="checkbox"/> Folio/Program						
					<input type="checkbox"/> Grain						
					<input type="checkbox"/> Hardware						
					<input type="checkbox"/> Inspection Incomplete/Unqualified						
					<input type="checkbox"/> Instructions Incomplete/Unclear						
					<input type="checkbox"/> Misaligned/off center						
					<input type="checkbox"/> Mislabeled						
					<input type="checkbox"/> Misread						
					<input type="checkbox"/> Off-set						
					<input type="checkbox"/> Out of Calibration						
					<input type="checkbox"/> Out of Sequence						
					<input type="checkbox"/> Outside Dimensions						
					<input type="checkbox"/> Over/Under tolerance						
					<input type="checkbox"/> Part Incorrect						
					<input type="checkbox"/> Part Lost/Missing						
					<input type="checkbox"/> Part Moved						
					<input type="checkbox"/> Positioned Wrong						
					<input type="checkbox"/> Power Loss/Surge						
					<input type="checkbox"/> Pressure/Forced						
					<input type="checkbox"/> Set-up						
					<input type="checkbox"/> Temperature/Cure						
					<input type="checkbox"/> Weld						
					<input type="checkbox"/> Wrong Stock Pulled						
					<input type="checkbox"/> Other						

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. SR- D412-706-1	REV. A SHEET 5 OF 5
DATE 04.10.27	TITLE STRESS REPORT	SCALE MTS	
A	04.10.27	NEW ISSUE	

3.3 D3264-1 BRACKET ANALYSIS

a) WORST CASE SECTION IN BENDING:



$$I = \frac{1}{12} b h^3 = \left(\frac{1}{12}\right)(5.50'')(0.125'')^3 = 0.000895 \text{ in}^4$$

$$c = 0.0625''$$

$$M = 350 \text{ in}\cdot\text{lb} \quad (\text{SEE SECTION 3.1})$$

$$\sigma = M c / I = (350)(0.0625) / 0.000895 = 24.4 \text{ ksi}$$

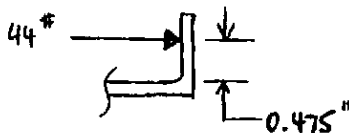
$$F_{tu} = 38 \text{ ksi} \quad (\text{FOR QQ-A-200/8})$$

$$MS = 38 / 24.4 - 1 = 0.56 \leftarrow \text{OK } 0.66$$

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b) LOCALIZED LOADING:



HIGHEST BOLT LOAD = 44# (SEE SECTION 3.2)
CONSIDER LOAD ACTS OVER A WIDTH OF $4D = 0.76''$

$$\therefore I = \frac{1}{12} b h^3 = \frac{1}{12} (0.76'')(0.125'')^3 = 0.000124 \text{ in}^4$$

$$c = 0.063''$$

$$M = (44\#)(0.475'') = 21 \text{ in}\cdot\text{lb}$$

$$\sigma = M c / I = (21)(0.063'') / 0.000124 \text{ in}^4 = 10.7 \text{ ksi}$$

$$F_{tu} = 38 \text{ ksi} \quad (\text{FOR QQ-A-200/8})$$

$$MS = 38 / 10.7 - 1 = 2.6 \leftarrow \text{OK}$$

